WHAT IS CLAIMED IS:

1.   An electro-optical device, comprising:

a plurality of pixels, each of the plurality of pixels having an electro-optical element, brightness of each of the electro-optical elements being set for each of a plurality of sub-frames, which constitute one frame of a period and each have a predetermined period, so that at least two levels of brightness can be set for one frame, and the plurality of sub-frames including at least two sub-frames having the same period of length.

2.   The electro-optical device according to Claim 1,

the at least two sub-frames having the longest period among the plurality of sub-frames.

3.   The electro-optical device according to Claim 2,

a sub-frame having the longest period among the plurality of sub-frames excluding the at least two sub-frames being half as long as the sub-frames having the longest period among the plurality of sub-frames.

4.   The electro-optical device according to Claim 1,

the at least two sub-frames not being arranged consecutively in one frame of a period.

5.   An electro-optical device, comprising:

a plurality of pixels, each of the plurality of pixels having an electro-optical element, brightness of the electro-optical element being set for each of a plurality of sub-frames, which constitute one frame of a period and each have a predetermined period, so that at least two levels of brightness can be set for one frame, and lengths of the plurality of sub-frames excluding two sub-frames having the longest period being set to a period in binary weighted.

6.   The electro-optical device according to Claim 5,

the two sub-frames having the longest period not being arranged consecutively in one frame of a period.

7.   An electro-optical device, comprising:

a plurality of pixels, each of the plurality of pixels having an electro-optical element, brightness of the electro-optical element being set for each of a plurality of sub-frames, which constitute one frame of a period and each have a predetermined period, so that at least two levels of brightness can be set for one frame, and a sub-frame having the longest period among n (n denotes a natural number) sub-frames of the plurality of sub-frames excluding two sub-frames having the longest period being set to 2n-1 times as long as a sub-

frame having the shortest period among the n sub-frames and brightness for the one frame can be set to 2n+1 levels.

8.   The electro-optical device according to Claim 7,

the two sub-frames having the longest period not being arranged consecutively in one frame of a period.

9.   An electro-optical device, comprising:

a plurality of pixels, each of the plurality of pixels having an electro-optical element, brightness of the electro-optical element being set for each of a plurality of sub-frames, which constitute one frame of a period and each have a predetermined period, so that at least two levels of brightness can be set for one frame, and the sum of two sub-frames having the longest period among the plurality of sub-frames being set to 2n (n denotes a natural number) times as long as a sub-frame having the shortest period among the n sub-frames and brightness for one frame can be set to 2n+1 levels.

10.   The electro-optical device according to Claim 9,

the two sub-frames not being arranged consecutively in one frame of a period.

11.   An electro-optical device, comprising:

a plurality of pixels, each of the plurality of pixels having an electro-optical element, brightness of the electro-optical element being set for each of a plurality of sub-frames, which constitute one frame of period and each have a predetermined period, so that at least 2n (n denotes a natural number) levels of brightness can be set for one frame, and number of the plurality of sub-frames being n + 1 or more.

12.   The electro-optical device according to Claim 11, a sub-frame having the longest period among the plurality of sub-frames being 2n-1 times as long as a sub-frame having the shortest period.

13.   An electro-optical device, which is capable of setting at least two levels of brightness for one frame, the electro-optical device comprising:

electro-optical elements that controlled to take either an ON state or an OFF state based on gray scale data for each of a plurality of sub-frames, which constitute one frame of a period and each have a predetermined period, and at least two of the plurality of sub-frames being controlled to always concurrently take either the ON state or the OFF state.

14.   The electro-optical device according to Claim 13,

the at least two sub-frames having the same period of length.

15.   The electro-optical device according to Claim 13,

the at least two sub-frames not being arranged consecutively in one frame of a period.

16.　　The electro-optical device according to Claim 1,

the plurality of sub-frames, which are set for a series of pixels among the plurality of pixels, the series of pixels being connected to one scanning line, starting and ending substantially simultaneously.

17.　　The electro-optical device according to Claim 1,

the plurality of sub-frames, which are set for a series of pixels among the plurality of pixels, the series of pixels being connected to at least two scanning lines, ending substantially simultaneously.

18.　　The electro-optical device according to Claim 16, further comprising pixel circuits, each of the pixel circuits including:

a first transistor put into a conductive state when the scanning line thereof is selected;

a capacitor element holding a data signal supplied through the first transistor;

a second transistor switched to an ON state or an OFF state based on the data signal held in the capacitor element; and

an electronic element to which a driving current is supplied based on the ON state of the second transistor.

19.　　The electro-optical device according to Claim 18, the electronic element being a current-driven element.

20.　　The electro-optical device according to Claim 19, the current-driven element being an EL element.

21.　　The electro-optical device according to Claim 20, the EL element having a light-emitting layer formed of an organic material.

22.　　A method of driving an electro-optical device that includes a plurality of pixels, each of the plurality of pixels having an electro-optical element, the method comprising:

setting brightness of the electro-optical element for each of a plurality of sub-frames, which constitute one frame of period and each have a predetermined period, so that at least two levels of brightness can be set for one frame, the plurality of sub-frame including at least two sub-frames having the same period of length; and

when the at least two sub-frames are set, arranging the at least two sub-frames so as not to be adjacent to each other.

23. A method of driving an electro-optical device that includes a plurality of pixels, each of the plurality of pixels having an electro-optical element, the method comprising:

setting brightness of the electro-optical elements for each of a plurality of sub-frames, which constitute one frame of period and each have a predetermined period, so that at least two levels of brightness can be set for one frame, lengths of the plurality of sub-frames excluding two sub-frames having the longest period being set in binary load; and

when the two sub-frames are set, arranging the two sub-frames so as not to be adjacent to each other.

24. A method of driving an electro-optical device that includes a plurality of pixels, each of the plurality of pixels having an electro-optical element, the method comprising:

setting brightness of the electro-optical elements for each of a plurality of sub-frames, which constitute one frame of period and each have a predetermined period, so that at least two levels of brightness can be set for one frame, a sub-frame having the longest period among n (n denotes a natural number) sub-frames of the plurality of sub-frames excluding two sub-frames having the longest period being set to 2n-1 times as long as a sub-frame having the shortest period of the n sub-frames; and

when the two sub-frames are set, arranging the two sub-frames so as not to be adjacent to each other, and brightness for one frame being set to 2n+1 levels.

25. A method of driving an electro-optical device that includes a plurality of pixels, each of the plurality of pixels having an electro-optical element, the method comprising:

setting brightness of the electro-optical elements t for each of a plurality of sub-frames, which constitute one frame of period and each have a predetermined period, so that at least two levels of brightness can be set for one frame, the sum of two sub-frames having the longest period among the plurality of sub-frames being set 2n (n denotes a natural number) times as long as a sub-frame having the shortest period among the n sub-frames; and

when the two sub-frames are set, arranging the two sub-frames so as not to be adjacent to each other, and brightness for one frame being set to 2n+1 levels.

26. A method of driving an electro-optical device that includes a plurality of pixels, each of the plurality of pixels having an electro-optical element, the method comprising:

setting brightness of the electro-optical element for each of a plurality of sub-frames, which constitute one frame of period and each have a predetermined period, so that at least 2n (n denotes a natural number) levels of brightness are set for one frame;

always concurrently putting predetermined two sub-frames into a set state or a non-set state, the number of the plurality of sub-frames being n + 1 or more; and

when being in the set state, arranging the two sub-frames so as not to be adjacent to each other, and brightness for one frame being settable to 2n levels.

27.   The method of driving an electro-optical device according to Claim 22,

the plurality of sub-frames, which are set for a series of pixels among the plurality of pixels, the series of pixels being connected to one scanning line, starting and ending substantially simultaneously.

28.   The method of driving an electro-optical device according to Claim 22,

the plurality of sub-frames, which are set for a series of pixels among the plurality of pixels, the series of pixels being connected to at least two scanning lines, ending substantially simultaneously.

29.   The method of driving an electro-optical device according to Claim 27, the electro-optical device including pixel circuits, each of the pixel circuits including:

a first transistor put into a conductive state when the scanning line thereof is selected;

a capacitor element holding a data signal supplied through the first transistor;

a second transistor controlled to take an ON state or an OFF state based on the data signal held in the capacitor element; and

an electronic element to which a driving current is supplied based on the ON state of the second transistor.

30.   An electronic apparatus, comprising:

the electro-optical device according to Claim 1.